

FRONTIERS

GRAPE EXPECTATIONS

Researchers at the University of Florida have developed a group of genes that may help grapevines become resistant to Pierce's disease, which causes millions of dollars in losses to crops each year. With grapes ranked among the top 15 most-valuable crops in the country, the research could have a major impact on the industry, says Dennis Gray, a UF biologist. Pierce's disease is the result of a bacteria that causes vines to dry up and die.

The new genes could be particularly important to wine growers in the southeastern United States.

"We believe these genes could protect grape plants against a number of diseases, but our target is Pierce's disease," Gray says. "We're optimistic tests will confirm heightened resistance in the plants."

CARROT-LOVING BABIES

Women apparently can influence whether their babies will like carrots by having some of the vegetable while pregnant or breast-feeding, according to a Washington Post report.

Julie A. Mennella of the Monell Chemical Senses Center in Philadelphia and colleagues had pregnant women who planned to breast-feed drink carrot juice or water four days a week for three consecutive weeks during their last trimester of pregnancy and again during the first two months of breast-feeding.

Babies whose mothers drank carrot juice either at the end of their pregnancies or during breast-feeding were much less likely to balk at the taste of carrot-flavored cereal, the researchers found. Fetuses and infants experience flavors from mothers' diets through amniotic fluid and breast milk, the researchers said.

"This is the first experimental evidence in humans that prenatal flavor experiences influence postnatal responses to that flavor in solid foods," the researchers wrote in the journal *Pediatrics*. "These very early flavor experiences may provide the foundation for cultural and ethnic differences in cuisine."

News briefs compiled by Kurt Loft, Media General News Service.



SEA of NO RETURN

By Kurt Loft

Media General News Service

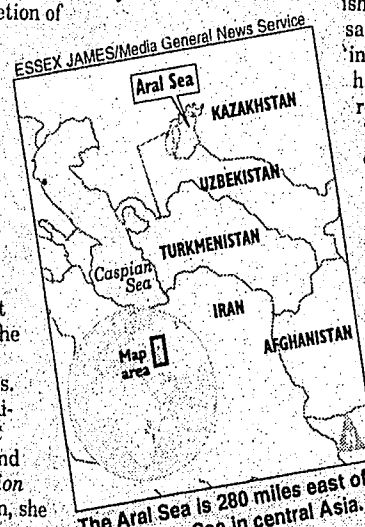
They call it the Aral Sea, once the world's fourth-largest lake, a grand and fertile gift of life for thousands of years.

But those who need it most cut its arteries, diverting sustenance elsewhere. A critical resource for people as one of the more dramatic ecological tragedies of our time, a toxic pool in a desert that experts say is irreversibly damaged.

If a dying lake in central Asia seems a remote concern to people in the United States, the story of the Aral Sea is anything but. The depletion of aquifers and mismanagement of water sources are creating an era of water scarcity, not just in the developing world but globally. And each crisis, each threat to a precious resource, sends ripples across the planet.

The Aral Sea offers a glaring example of crisis, of water manipulated with little regard for the environmental service it provides, says Sandra Postel, the director of the Global Water Policy Project in Amherst, Mass. Postel is the author of two seminal books on water issues, *Last Oasis: Facing Water Scarcity and the Pillar of Sand: Can the Irrigation Miracle Last?* The Aral problem, she says, mirrors what is being done everywhere, including Florida's Everglades.

What's happening to the Aral Sea shows the dangers of not paying attention to the health of ecosystems when making decisions about how to use water," Postel says by telephone. "It's a lesson we need to learn from, because we don't know the full consequences of large-scale water management of this sort."



The Aral Sea is 280 miles east of the Caspian Sea in central Asia.

In the case of the Aral Sea, the damage was premeditated. A large lake rather than a sea, this once-immense body of water in southwestern Kazakhstan and northwestern Uzbekistan had been a vital resource to millions of people for centuries. The Aral, 280 miles east of the Caspian Sea, derives its name from the Turkic word for "island" referring to an island of water in a sea of desert.

Two large rivers, the Amu Darya and Syr Darya, once fed the Aral, but Soviet planners in the 1950s diverted flows to irrigate cotton farms. The plan backfired. By the mid-'70s, fish harvesting diminished by 75 percent as the lake became more saline and polluted. By 1980, the Aral's inflow of water was 10 percent of what it had been in the 1950s, and its shores receded in leaps.

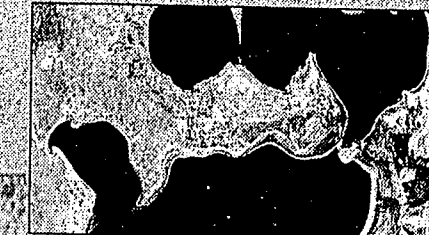
Unless governments find a solution and divert new waters to the Aral Sea, experts expect it to disappear within a decade.

Postel calls the drying up of the Aral an act of immeasurable arrogance, tantamount to the elimination of an ecosystem nearly the size of Ireland.

"By diverting the rivers, the planners in Moscow discounted the importance of the ecosystem altogether," she says. "It was an extreme approach and a purposeful act. They didn't foresee the whole range of ecological consequences of drying up the sea."

Today, salinity levels are triple of what they were in 1960, making Aral water unsuitable for drinking or irrigating crops. Farmers were forced to convert to more salt-tolerant crops and find water from other sources, stressing an already water-critical region. Worsening the problem, winds keep in flux an estimated 100 million tons of dust-salt from the dry lake bed, depositing it over a 156,000-square-mile area where about 5 million people live.

"It's a disaster zone, and not just because airborne salts and other toxins have stressed once-fertile cropland."



Ships waste away on a dry lake bed where a portion of the Aral Sea used to be. At left, satellite images from 1973 (top), 1987 (middle) and 2000 (bottom) capture the sea (the darker shade) as it shrinks. The problem began when Soviet planners diverted water from rivers that fed the sea.

The surrounding area has one of the highest rates of anemia and tuberculosis in the world, according to the World Health Organization, and the sea's accumulation of pesticides, fertilizers and other toxins has seeped into the surrounding water table.

The systematic destruction of the Aral, experts say, illustrates how a mismanaged water resource can threaten an entire region and its population.

"The Aral Sea has become the greatest ecological catastrophe our planet has yet seen, an awful warning of the consequences of hubris, greed and the politics of ignorance," writes Mark De Villiers in his new book, *Water: The Fate of Our Most Precious Resource*. "The Aral Sea is really an ex-sea now, a shrunken thing, and poisonous."

Even if the Aral problem remains for most Westerners out of sight and out of mind, experts say it sits at the forefront of today's water issues. Postel said she believes it underscores the consequences of a world trying to meet water demands by pushing the limits of a finite supply.

Fresh water, after all, makes up less than 3 percent of all water on Earth. Postel argues that we are quick to assume our rights to use water, but slow to recognize obligations to preserve and protect it.

"The Everglades is a perfect example of this," she says. "We're spending \$8 billion to undo damages that were altogether preventable, and it's very expensive to go back and undo an ecosystem. It argues for a cautionary approach."

Some environmental experts believe that the Everglades can be saved through careful planning. The shrinking sea in central Asia, however, may never return to its former self.

"The Aral Sea is the most extreme example of water mismanagement in the world," Postel says. "It stands alone in terms of degree. We may never see it come back."

Kurt Loft is a staff writer for The Tampa Tribune.

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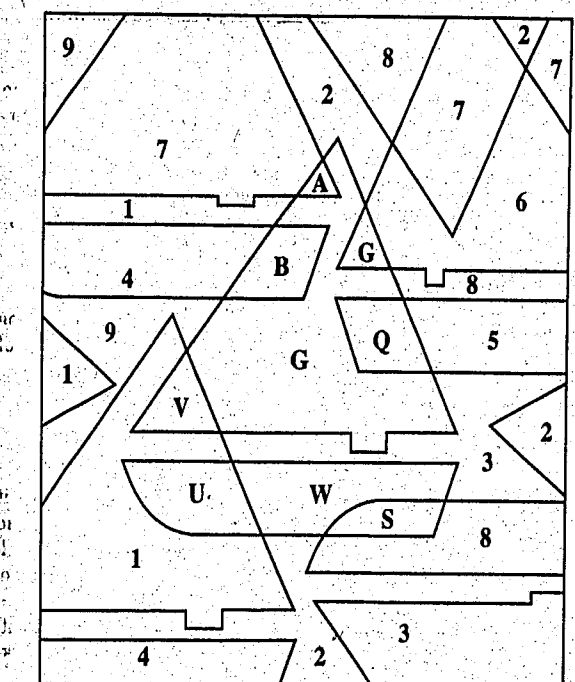
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BRAT	DOORMAT	HABITAT
CAT	FAT	MUSKRAT
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THE WORDS READ UP, DOWN AND ACROSS.

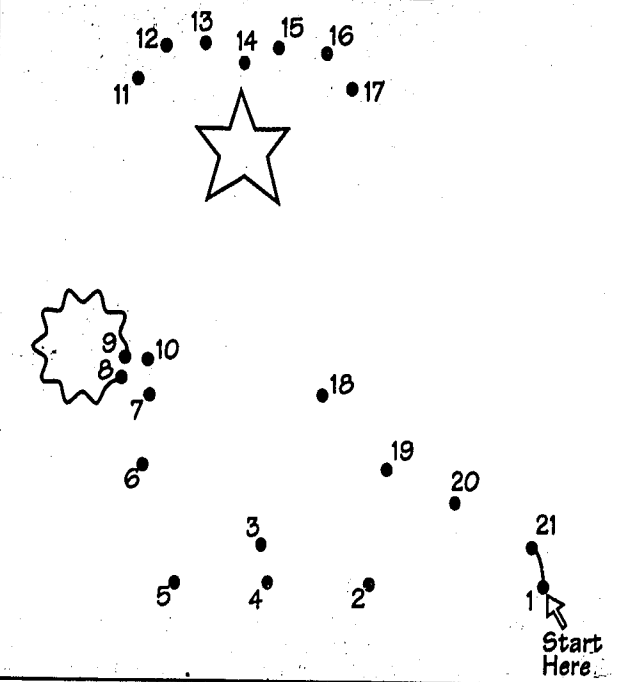
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HIDDEN PICTURE



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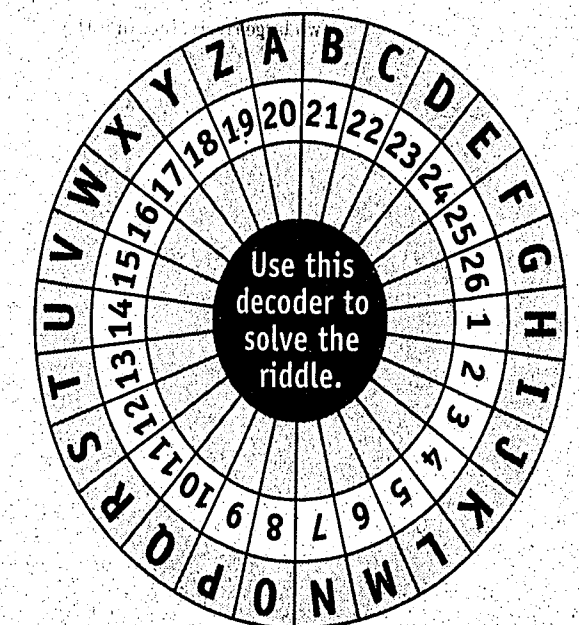
Connect the dots



SECRET CODE

What kind of dinosaur did the prehistoric cowboy ride?

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Underwater Explorer

In June 1910, Jacques-Yves Cousteau was born in France. As a child, Cousteau was sickly, so he spent a lot of time playing and swimming at the beach.

Though interested in machines, Cousteau was bored with school and even got expelled from high school for breaking windows. After high school, Cousteau went to the French Naval Academy and then joined the French Navy and began exploring underwater.

Cousteau fought for the French during World War II. He even did some spy work and was awarded several medals.

In 1943, Cousteau and a French engineer worked on the aqualung, a device that lets divers stay underwater for hours at a time.

In order to explore more, Cousteau bought a ship, *Calypso*. He also made many films and wrote books, including *The Living Sea* and *World Without Sun*.

In 1968, Cousteau brought his underwater world to those on land when he became part of TV with his series, *The Undersea World of Jacques Cousteau*. Each week, people were able to learn about dolphins, whales, sharks, sunken treasure and more.

Itsy, Bitsy

Spider?

Although they are usually not aggressive, brown recluse spiders will bite if they're crushed, handled or disturbed, but usually the bite is not fatal.

Some people feel a sting when bit by a brown recluse; others feel bad pain if they have a reaction to the bite. Within a day or so, the reaction to the bite changes to fever, chills, aches and pains, and the bite erupts into a hole in the flesh, which can be as big as a hand. Protect yourself from brown recluse spiders by staying away from them.

You'll find brown recluses mostly in southern and midwestern states, especially Arkansas, Oklahoma and Missouri. The spiders have a soft, yellowish-tan to dark brown body that's only 1/4 to 1/2 inch long. They also have long gray to dark brown legs covered with dark hairs. The most noticeable things about brown recluses are their three pairs of eyes and marks that look like a violin.

Brown recluses come out mostly at night to feed on cockroaches and other small insects. During the day, they hide in quiet places like closets, basements, under appliances and in corners. They also hide in clothing, shoes or bedding that has not been used for awhile.

Precautions can help safeguard your hardware from disaster

Let's look at protecting your hardware from weather disasters.

At the very least, you need a decent surge suppressor that can handle the high-voltage surges that can enter your home or business through electric lines, telephone wires and TV cables.

Make sure to get a suppressor specifically designed for computers because they have different protection needs from other consumer electronics components.

Don't think that a \$5 power strip will do the job. For an additional \$10-\$50, you can buy significantly more protection.

Here's what to look for:

- Clamping voltage:** The lower the clamping voltage, the better the protection. Look for one with a clamping voltage of 400 volts or less.
- Response time:** For the best protection, look for a suppressor that provides a response time of less than 10 nanoseconds.
- Energy dissipation:** A good suppressor can absorb 200-400 joules before it blows. The failure will affect only the suppressor, not your equipment.

Three-way protection: Cheap suppressors guard against surges only in the current-carrying wires. Get a suppressor that also guards against surges that come through the ground wire.

Don't forget to look for a suppressor with built-in modem protection.

If you have computers scattered about your home or business, another option would be meter-based surge suppression systems through your local electric utility.

Remember, a surge suppressor of any kind won't protect your system from a direct lightning strike. Only shutting down and unplugging your computer provides 100 percent protection.

An uninterruptible power supply or UPS allows your computer to keep running for at least a short time after a power surge. It also provides protection from power surges.

A basic UPS costs \$75-\$100 and will keep your computer running for about five minutes after a power outage — long enough to safely shut down the system without losing data.

Before a disaster threatens your area, it's a good idea to write down the serial numbers for the monitor, CPU, printer and other peripherals and photograph your equipment. If you later need to file a claim, the information will be helpful.

Make any necessary last-minute backups and unplug the power, phone and any network cables from the wall.

Put the computer case in a plastic garbage bag and secure it with tape so water can't get in. If the PC is on the floor, elevate it to protect against flood waters.

Bag the keyboard, mouse, printer and other peripherals. Move the equipment away from unprotected windows to a more secure area.

If you're forced to evacuate and want to take the computer with you, consider leaving behind all but the CPU. You'll save time and space, and the remaining components are rather easily replaced.

Don't forget to back up your data and the internet. Visit www.tampatribune.com for more information.

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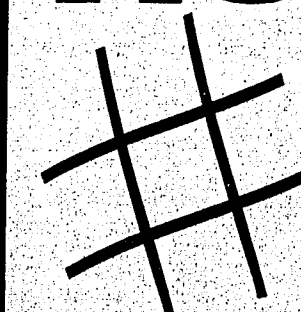
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Answers

